

## RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical  
Information Center (STIC) no errors detected.

Application Serial Number: 10/541,626A  
Source: TFW9  
Date Processed by STIC: 6/14/06

***ENTERED***



IFWO

## RAW SEQUENCE LISTING

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:39

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw

```

3 <110> APPLICANT: Haruo HANAWA
5 <120> TITLE OF INVENTION: VECTOR FOR GENE THERAPY AND METHOD OF QUANTIFYING TARGET
6     PROTEIN IN MAMMAL OR CULTURED CELLS WITH THE ADMINISTRATION
7     OF THE VECTOR FOR GENE THERAPY
9 <130> FILE REFERENCE: 0760-0347PUS1
11 <140> CURRENT APPLICATION NUMBER: US 10/541,626A
12 <141> CURRENT FILING DATE: 2005-07-07
14 <150> PRIOR APPLICATION NUMBER: PCT/JP2003/016956
15 <151> PRIOR FILING DATE: 2003-12-26
17 <150> PRIOR APPLICATION NUMBER: JP 2003-3967
18 <151> PRIOR FILING DATE: 2003-01-10
20 <160> NUMBER OF SEQ ID NOS: 24
22 <210> SEQ ID NO: 1
23 <211> LENGTH: 11
24 <212> TYPE: PRT
25 <213> ORGANISM: Artificial Sequence
27 <220> FEATURE:
28 <223> OTHER INFORMATION: oligopeptide C19-29 region of glucagon of human, mouse or rat
30 <400> SEQUENCE: 1
32 Ala Gln Asp Phe Val Gln Trp Leu Met Asn Thr
33 1           5           10
36 <210> SEQ ID NO: 2
37 <211> LENGTH: 1471
38 <212> TYPE: DNA
39 <213> ORGANISM: Artificial Sequence
41 <220> FEATURE:
42 <223> OTHER INFORMATION: DNA insert encoding rat IFN-r receptor, rat IgG Fc region
43     and glucagon C19-29 region
46 <220> FEATURE:
47 <221> NAME/KEY: CDS
48 <222> LOCATION: (13)..(1461)
49 <223> OTHER INFORMATION: DNA insert encoding rat IFN-r receptor, rat IgG Fc region
50     and glucagon C19-29 region
52 <400> SEQUENCE: 2
53 gaattcattt aa atg att ctg ctg gtg gtc ctg atg ctg tct gcg gag atc           51
54           Met Ile Leu Leu Val Val Leu Met Leu Ser Ala Glu Ile
55           1           5           10
57 ggg agt gga gct ttg atg agc acc gag gat cct aag ccg ccc tcg gtg           99
58 Gly Ser Gly Ala Leu Met Ser Thr Glu Asp Pro Lys Pro Pro Ser Val
59     15           20           25
61 cct gcg cca aca aat gtt cta att acg tcc tat gac ttg aac cct gtc           147
62 Pro Ala Pro Thr Asn Val Leu Ile Thr Ser Tyr Asp Leu Asn Pro Val
63 30           35           40           45

```

## RAW SEQUENCE LISTING

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:39

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw

```

65 gta cat tgg aag cac cag aac gtg tcg cag gct gcc gtc ttc act gta      195
66 Val His Trp Lys His Gln Asn Val Ser Gln Ala Ala Val Phe Thr Val
67              50              55              60
69 cag gta aag atg tat cca gaa tac tgg act gat gcc tgc acc aac att      243
70 Gln Val Lys Met Tyr Pro Glu Tyr Trp Thr Asp Ala Cys Thr Asn Ile
71              65              70              75
73 gcc cat cat tat tgt aat atc tac aaa cac att tcc tat cct gac tca      291
74 Ala His His Tyr Cys Asn Ile Tyr Lys His Ile Ser Tyr Pro Asp Ser
75              80              85              90
77 tct gcc tgg gcc aga gtt aag gcc aag gtt gga caa aga gaa tct gcc      339
78 Ser Ala Trp Ala Arg Val Lys Ala Lys Val Gly Gln Arg Glu Ser Ala
79              95              100              105
81 tat gcg cag tca gaa gag ttt att atg tgc cga aag ggg aag gtt gga      387
82 Tyr Ala Gln Ser Glu Glu Phe Ile Met Cys Arg Lys Gly Lys Val Gly
83 110              115              120              125
85 ccg cct ggc ctg gac atc gga agg aag gaa gat cag ctg att gtc cac      435
86 Pro Pro Gly Leu Asp Ile Gly Arg Lys Glu Asp Gln Leu Ile Val His
87              130              135              140
89 ata ttt cac cct aag gtc aat gtg agt cag gaa acc atg ttt ggt gac      483
90 Ile Phe His Pro Lys Val Asn Val Ser Gln Glu Thr Met Phe Gly Asp
91              145              150              155
93 gga aat acc tgt tac aca ttc gac tac act gtg ttt gtg aaa cat tac      531
94 Gly Asn Thr Cys Tyr Thr Phe Asp Tyr Thr Val Phe Val Lys His Tyr
95              160              165              170
97 agg agt ggg gag atc cta cat aca gaa cat agc gtc cta aaa gaa gat      579
98 Arg Ser Gly Glu Ile Leu His Thr Glu His Ser Val Leu Lys Glu Asp
99              175              180              185
101 tgt agc gaa act ctg tgt gag tta aac atc tca gtg tcc acg ctg aat      627
102 Cys Ser Glu Thr Leu Cys Glu Leu Asn Ile Ser Val Ser Thr Leu Asn
103 190              195              200              205
105 tcc aat tac tgt gtt tca gta gtt gga aag tcg tct ttc tgg caa gtt      675
106 Ser Asn Tyr Cys Val Ser Val Val Gly Lys Ser Ser Phe Trp Gln Val
107              210              215              220
109 aat aca gaa aca tca aaa gac gcc tgt atc ccc ttt ctc cat gat gac      723
110 Asn Thr Glu Thr Ser Lys Asp Ala Cys Ile Pro Phe Leu His Asp Asp
111              225              230              235
113 aga gaa gaa gcg gcc gcc gtg ccc aga aac tgt gga ggt gat tgc aag      771
114 Arg Glu Glu Ala Ala Val Pro Arg Asn Cys Gly Gly Asp Cys Lys
115              240              245              250
117 cct tgt ata tgt aca ggc tca gaa gta tca tct gtc ttc atc ttc ccc      819
118 Pro Cys Ile Cys Thr Gly Ser Glu Val Ser Ser Val Phe Ile Phe Pro
119              255              260              265
121 cca aag ccc aaa gat gtg ctc acc atc act ctg act cct aag gtc acg      867
122 Pro Lys Pro Lys Asp Val Leu Thr Ile Thr Leu Thr Pro Lys Val Thr
123 270              275              280              285
125 tgt gtt gtg gta gac att agc cag gac gat ccc gag gtc cat ttc agc      915
126 Cys Val Val Val Asp Ile Ser Gln Asp Asp Pro Glu Val His Phe Ser
127              290              295              300
129 tgg ttt gta gat gac gtg gaa gtc cac aca gct cag act cga cca cca      963

```

## RAW SEQUENCE LISTING

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:39

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw

```

130 Trp Phe Val Asp Asp Val Glu Val His Thr Ala Gln Thr Arg Pro Pro
131          305          310          315
133 gag gag cag ttc aac agc act ttc cgc tca gtc agt gaa ctc ccc atc      1011
134 Glu Glu Gln Phe Asn Ser Thr Phe Arg Ser Val Ser Glu Leu Pro Ile
135          320          325          330
137 ctg cac cag gac tgg ctc aat ggc agg acg ttc aga tgc aag gtc acc      1059
138 Leu His Gln Asp Trp Leu Asn Gly Arg Thr Phe Arg Cys Lys Val Thr
139          335          340          345
141 agt gca gct ttc cca tcc ccc atc gag aaa acc atc tcc aaa ccc gaa      1107
142 Ser Ala Ala Phe Pro Ser Pro Ile Glu Lys Thr Ile Ser Lys Pro Glu
143 350          355          360          365
145 ggc aga aca caa gtt ccg cat gta tac acc atg tca cct acc aag gaa      1155
146 Gly Arg Thr Gln Val Pro His Val Tyr Thr Met Ser Pro Thr Lys Glu
147          370          375          380
149 gag atg acc cag aat gaa gtc agt atc acc tgc atg gta aaa ggc ttc      1203
150 Glu Met Thr Gln Asn Glu Val Ser Ile Thr Cys Met Val Lys Gly Phe
151          385          390          395
153 tat ccc cca gac att tat gtg gag tgg cag atg aac ggg cag cca cag      1251
154 Tyr Pro Pro Asp Ile Tyr Val Glu Trp Gln Met Asn Gly Gln Pro Gln
155          400          405          410
157 gaa aac tac aag aac act cca cct acg atg gac aca gat ggg agt tac      1299
158 Glu Asn Tyr Lys Asn Thr Pro Pro Thr Met Asp Thr Asp Gly Ser Tyr
159          415          420          425
161 ttc ctc tac agc aag ctc aat gtg aag aag gaa aaa tgg cag cag gga      1347
162 Phe Leu Tyr Ser Lys Leu Asn Val Lys Lys Glu Lys Trp Gln Gln Gly
163 430          435          440          445
165 aac acg ttc acg tgt tct gtg ctg cat gaa ggc ctg cac aac cac cat      1395
166 Asn Thr Phe Thr Cys Ser Val Leu His Glu Gly Leu His Asn His His
167          450          455          460
169 act gag aag agt ctc tcc cac tct ccg ggt aaa gcc caa gat ttt gtg      1443
170 Thr Glu Lys Ser Leu Ser His Ser Pro Gly Lys Ala Gln Asp Phe Val
171          465          470          475
173 cag tgg ttg atg aat acc tgagaattct      1471
174 Gln Trp Leu Met Asn Thr
175          480
178 <210> SEQ ID NO: 3
179 <211> LENGTH: 4790
180 <212> TYPE: DNA
181 <213> ORGANISM: Artificial Sequence
183 <220> FEATURE:
184 <223> OTHER INFORMATION: DNA sequence of artificial expression vector pCAGGS
186 <400> SEQUENCE: 3
187 gtcgacattg attattgact agttattaat agtaatcaat tacgggggtca ttagttcata      60
189 gcccatatat ggagttccgc gttacataac ttacggtaaa tggcccgctt ggctgaccgc      120
191 ccaacgaccc ccgcccattg acgtcaataa tgacgtatgt tcccatagta acgccaatag      180
193 ggactttcca ttgacgtcaa tgggtggact atttacggta aactgcccac ttggcagtac      240
195 atcaagtgta tcatatgcca agtacgcccc ctattgacgt caatgacggg aaatggcccc      300
197 cctggcatta tgcccagtac atgaccttat gggactttcc tacttggcag tacatctacg      360
199 tattagtcac cgctattacc atgggtcgag gtgagcccca cgttctgctt cactctcccc      420

```

## RAW SEQUENCE LISTING

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:39

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw

201	atctcccccc	cctccccacc	cccaatttttg	tattttattta	ttttttaatt	attttgtgca	480
203	gcgatggggg	cggggggggg	gggggcgcg	gccaggcggg	gcggggcggg	gcgagggg	540
205	gggcggggcg	aggcgagag	gtgcggcggc	agccaatcag	agcggcgcgc	tccgaaagt	600
207	tccttttatg	gcgaggcggc	ggcggcggcg	gccctataaa	aagcgaagcg	cgcggcgggc	660
209	gggagtcgct	gcgttgccct	cgccccgtgc	cccgcctcgc	gccgcctcgc	gccgcccgc	720
211	ccggctctga	ctgaccgcgt	tactcccaca	ggtgagcggg	cgggacggcc	cttctcctcc	780
213	gggctgtaat	tagcgcttgg	tttaatgacg	gctcgtttct	tttctgtggc	tgcgtgaaag	840
215	ccttaaagg	ctccgggagg	gccctttgtg	cgggggggag	cggctcgggg	ggtgctgctg	900
217	tgtgtgtgtg	cgtggggagc	gccgcgtgcg	gcccgcgctg	cccggcggt	gtgagcgctg	960
219	cgggcgcggc	gcggggcttt	gtgcgctccg	cgtgtgcgcg	aggggagcgc	ggccgggggc	1020
221	ggtgccccgc	ggtgcggggg	ggctgcgagg	ggaacaaagg	ctgcgtgcgg	ggtgtgtgctg	1080
223	tgggggggtg	agcagggggt	gtgggcgcgg	cggctcggtc	gtaaccccc	cctgcacccc	1140
225	cctccccgag	ttgctgagca	cggcccggct	tcgggtgcgg	ggctccgtgc	ggggcggtgg	1200
227	gcggggctcg	ccgtgccggg	cgggggggtg	cggcaggtgg	gggtgccggg	cggggcgggg	1260
229	ccgcctcggg	ccggggaggg	ctcgggggag	gggcgcggcg	gccccggagc	gccggcggt	1320
231	gtcgaggcgc	ggcgagccgc	agccattgcc	ttttatggta	atcgtgcgag	agggcgagc	1380
233	gaattccttt	gtcccaaate	tggcggagcc	gaaatctggg	aggcgccgcc	gcacccccct	1440
235	tagcgggcgc	gggcgaagcg	gtgcggcgcc	ggcaggaagg	aaatgggcgg	ggagggcctt	1500
237	cgtgcgtcgc	cgcgcgcgcg	tccccctctc	catctccagc	ctcggggctg	ccgcaggggg	1560
239	acggctgcct	tcggggggga	cggggcgagg	cgggggtcgg	cttctggcgt	gtgacccgcg	1620
241	gctctagagc	ctctgttaac	catgttcattg	ccttctctct	tttctctacg	ctcctgggca	1680
243	acgtgtgggt	tgttgtgctg	tctcatcatt	ttggcaaaga	attcctcgag	gaattcactc	1740
245	ctcaggtgca	ggctgcctat	cagaaggtgg	tggctggtgt	ggccaatgcc	ctggctcaca	1800
247	aataccactg	agatcttttt	ccctctgcca	aaaattatgg	ggacatcatg	aagccccctg	1860
249	agcatctgac	ttctggctaa	taaaggaaat	ttattttcat	tgcaatagt	tgttggaatt	1920
251	ttttgtgtct	ctcactcgga	aggacatatg	ggagggcaaa	tcatttataa	catcagaatg	1980
253	agtatttggt	ttagagtttg	gcaacatatg	ccatatgctg	gctgccatga	acaaagggtg	2040
255	ctataaagag	gtcatcagta	tatgaaacag	ccccctgctg	tccattcctt	attccataga	2100
257	aaagccttga	cttgagggtta	gatttttttt	atattttggt	ttgtgttatt	tttttcttta	2160
259	acatccctaa	aattttcctt	acatgtttta	ctagccagat	ttttcctcct	ctcctgacta	2220
261	ctcccagtc	tagctgtccc	tcttctctta	tgaagatccc	tcgacctgca	gcccagctt	2280
263	ggcgtaata	tggctcatagc	tgtttcctgt	gtgaaattgt	tatccgctca	caattccaca	2340
265	caacatacga	gccggaagca	taaagtgtaa	agcctggggt	gcctaataag	tgagctaact	2400
267	cacattaatt	gcgttgcgct	cactgcccgc	tttccagtcg	ggaaacctgt	cgtgccagcg	2460
269	gatccgcctc	tcaattagtc	agcaaccata	gtcccgcctc	taactccgcc	catcccgcct	2520
271	ctaactccgc	ccagttccgc	ccattctccg	ccccatggct	gactaatttt	ttttatttat	2580
273	gcagaggccg	aggccgcctc	ggcctctgag	ctattccaga	agtagtgagg	aggctttttt	2640
275	ggaggcctag	gcttttgcaa	aaagctaact	tgtttattgc	agcttataat	ggttacaaat	2700
277	aaagcaatag	catcacaaat	ttcacaaata	aagcattttt	ttcactgcat	tctagtgtg	2760
279	gtttgtccaa	actcatcaat	gtatcttata	atgtctggat	ccgctgcatt	aatgaatcgg	2820
281	ccaacgcgcg	gggagaggcg	gtttgcgtat	tgggcgctct	tccgcttctc	cgctcactga	2880
283	ctcgctgcgc	tcggctcgttc	ggctgcggcg	agcggtatca	gctcactcaa	aggcggtaat	2940
285	acggttatcc	acagaatcag	gggataacgc	aggaaagaac	atgtgagcaa	aaggccagca	3000
287	aaaggccagg	aaccgtaaaa	aggccgcgtt	gctggcgttt	ttccataggc	tccgcccccc	3060
289	tgacgagcat	cacaaaaatc	gacgctcaag	tcagaggtgg	cgaacccgca	caggactata	3120
291	aagataccag	gcgtttcccc	ctggaagctc	cctcgctgcg	tctcctgttc	cgaccctgcc	3180
293	gcttaccgga	tacctgtccg	cctttctccc	ttcgggaagc	gtggcgcttt	ctcaatgctc	3240
295	acgctgtagg	tatctcagtt	cgggtgtagg	cggttcgctc	aagctgggct	gtgtgcacga	3300
297	accccccggt	cagcccagac	gctgcgcctt	atccggtaac	tatcgtcttg	agtccaaccc	3360

## RAW SEQUENCE LISTING

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:39

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw

```

299 ggtaagacac gacttatcgc cactggcagc agccactggg aacaggatta gcagagcgag 3420
301 gtatgtaggc ggtgctacag agttcttgaa gtgggtggcct aactacggct acactagaag 3480
303 gacagtattt ggtatctgcg ctctgctgaa gccagttacc ttcggaaaaa gagttggtag 3540
305 ctcttgatcc ggcaaacaaa ccaccgctgg tagcgggtgg ttttttgttt gcaagcagca 3600
307 gattacgcgc agaaaaaaag gatctcaaga agatcctttg atcttttcta cggggctctga 3660
309 cgctcagtgg aacgaaaact cacgttaagg gattttggct atgagattat caaaaaggat 3720
311 cttcacctag atccttttaa attaaaaatg aagtttttaa tcaatctaaa gtatatatga 3780
313 gtaaacttgg tctgacagtt accaatgctt aatcagtgag gcacctatct cagcgatctg 3840
315 tctatttcgt tcatccatag ttgectgact ccccgctcgt tagataacta cgatacggga 3900
317 gggcttacca tctggcccca gtgctgcaat gataccgcga gaccacgct caccggctcc 3960
319 agatttatca gcaataaacc agccagccgg aagggccgag cgcagaagtg gtcctgcaac 4020
321 tttatccgcc tccatccagt ctattaattg ttgccgggaa gctagagtaa gtagttcgcc 4080
323 agttaatagt ttgcgcaacg ttgttgccat tgctacaggc atcgtgggtg cacgctcgctc 4140
325 gtttggtatg gcttcattca gctccggttc ccaacgatca aggcgagtta catgatcccc 4200
327 catgttggtg aaaaaagcgg ttagctcctt cggctcctcg atcgttggtc gaagtaagtt 4260
329 ggccgcagtg ttatcactca tgggttatggc agcactgcat aattctctta ctgtcatgcc 4320
331 atccgtaaga tgcttttctg tgactggtga gtactcaacc aagtcattct gagaatagtg 4380
333 tatgcggcga ccgagttgct cttgcccggc gtcaatacgg gataataccg cgccacatag 4440
335 cagaacttta aaagtgtcga tcattggaaa acgttcttcg gggcgaaaac tctcaaggat 4500
337 cttaccgctg ttgagatcca gttcgatgta acccaactcg gcaccaact gatcttcagc 4560
339 atcttttact ttcaccagcg tttctgggtg agcaaaaaca ggaaggcaaa atgccgcaaa 4620
341 aaagggaata agggcgacac ggaaatgttg aataactcata ctcttccttt ttcaatatta 4680
343 ttgaagcatt tatcagggtt attgtctcat gacgggatac atatttgaat gtatttagaa 4740
345 aaataaacia ataggggttc cgcgcacatt tccccgaaaa gtgccacctg 4790
348 <210> SEQ ID NO: 4
349 <211> LENGTH: 1233
350 <212> TYPE: DNA
351 <213> ORGANISM: Artificial Sequence
353 <220> FEATURE:
354 <223> OTHER INFORMATION: DNA insert encoding rat CTLA4, rat IgG Fc region and
355 glucagon C19-29 region
357 <220> FEATURE:
358 <221> NAME/KEY: CDS
359 <222> LOCATION: (13)..(1224)
360 <223> OTHER INFORMATION: DNA insert encoding rat CTLA4, rat IgG Fc region and
361 glucagon C19-29 region
363 <400> SEQUENCE: 4
364 gaattcattt aa atg gct tgt ctt gga ctc cag agg tac aaa act cac ctg 51
365 Met Ala Cys Leu Gly Leu Gln Arg Tyr Lys Thr His Leu
366 1 5 10
368 cag ctg cct tct agg act tgg cct ttt gga gtc ctg ctt tct ctt ctc 99
369 Gln Leu Pro Ser Arg Thr Trp Pro Phe Gly Val Leu Leu Ser Leu Leu
370 15 20 25
372 ttc atc cca atc ttc tct gaa gcc ata caa gtg acc caa cct tca gtg 147
373 Phe Ile Pro Ile Phe Ser Glu Ala Ile Gln Val Thr Gln Pro Ser Val
374 30 35 40 45
376 gtg ttg gcc agc agc cac ggt gtc gcc agc ttt cca tgt gaa tat gca 195
377 Val Leu Ala Ser Ser His Gly Val Ala Ser Phe Pro Cys Glu Tyr Ala
378 50 55 60

```

**VERIFICATION SUMMARY**

DATE: 06/14/2006

PATENT APPLICATION: US/10/541,626A

TIME: 09:20:40

Input Set : A:\2006-06-05 0760-0347PUS1.ST25.txt

Output Set: N:\CRF4\06142006\J541626A.raw